

**AMENDMENTS TO THE CLAIMS WITH MARKINGS TO SHOW CHANGES  
MADE, AND LISTING OF ALL CLAIMS WITH PROPER IDENTIFIERS**

1. (Currently amended) An optical sensor [[[1)]]] for an electrical machines ~~having machine, comprising:~~  
a bearing;  
a coding disk; and  
sealing means for providing a seal sealing between the bearing (3) ~~of the sensor (1) and its~~ the coding disk (5), characterized in that ~~the seal is said sealing means being constructed~~ in the form of a ferrofluid seal.
2. (Currently amended) The optical sensor [[[1)]]] as claimed in claim 1, ~~characterized in that wherein the bearing is constructed to support the sensor (1) is mounted~~ without play.
3. (Currently amended) The optical sensor [[[1)]]] as claimed in ~~one of the preceding claims~~ claim 1, characterized in that further comprising a sensor shaft, and a sensor flange supported by the sensor shaft via the bearing, wherein the ferrofluid seal has includes a magnet [[[6)]]] which is magnetized axially and has opposite end faces, flux guide elements [[[7, 9)]]] disposed at each of its the end faces, and a ferrofluid liquid, thus produces for producing a seal ~~by means of a suitable ferrofluid liquid (8)~~ between the sensor flange [[[4)]]] and a the sensor shaft [[[2)]]].

4. (New) An optical sensor for an electrical machine, comprising:
  - a sensor shaft defining an axis;
  - a bearing for support of the sensor shaft;
  - a coding disk disposed on the sensor shaft at a distance to the bearing;and
  - a ferrofluid seal disposed between the bearing and the coding disk to prevent lubricant from migrating from the bearing toward the coding disk.
5. (New) The optical sensor as claimed in claim 4 wherein the bearing is constructed to support the sensor shaft without play.
6. (New) The optical sensor as claimed in claim 4, wherein the ferrofluid seal includes a magnet which is magnetized in axial direction, a flux guide element disposed at one end face of the magnet, and a ferrofluid ring disposed between the flux guide element and an outer surface of the sensor shaft.
7. (New) The optical sensor as claimed in claim 4, wherein the ferrofluid seal includes a magnet which is magnetized in axial direction and has opposite end faces, two flux guide elements disposed respectively at the end faces of the magnet, and two ferrofluid rings disposed respectively between the flux guide elements and an outer surface of the sensor shaft.
8. (New) A ferrofluid seal for use as protection of an operating member against ingress of any contaminant.